

Claims

1. A transformation apparatus comprising:

a memory unit for storing a program for batch processing in a form of source code;

5 a section judging unit for dividing the source code of the program stored in the memory unit into at least one block of process, each block of process being identified as a section, and judging a role of the section as semantic information of each section; and

an extracting/transforming unit for extracting transformation

10 information for source code transformation from the source code of the program stored in the memory unit based on the semantic information of each section judged by the section judging unit, and transforming the source code of the program into source code of a transformation result program including the source code of a transformation result program for a client and
15 the source code of the transformation result program for a server based on the transformation information extracted.

2. The transformation apparatus of claim 1, wherein the

extracting/transforming unit transforms the source codes of the two transformation result programs into source codes of an object-oriented

20 program.

3. The transformation apparatus of claim 2, wherein the

extracting/transforming unit creates plural templates of the object-oriented program, which correspond to plural classes having a predetermined data structure and procedure, extracts plural pieces of information including the 25 predetermined data structure and procedure from the source codes of the two

transformation result programs, and transforms the source codes of the two transformation result programs into the source codes of plural object-oriented programs by applying each of the plural pieces of information extracted to a corresponding part of the plural templates.

5 4. A transformation apparatus comprising:

a memory unit for storing a program for batch processing in a form of

source code;

a section judging unit for dividing the source code of the program stored in the memory unit into at least one block of process, each block of 10 process being identified as a section, and judging a role of each section as semantic information of each section, and

wherein the transformation apparatus creates plural templates of object-oriented programs, which correspond to plural classes, each of which having a predetermined data structure and procedure, extracts plural pieces 15 information including the predetermined data structure and procedure from the source code of the program for batch processing stored in the memory unit based on the semantic information of each section judged by the section judging unit, and transforms the source code of the program stored in the memory unit by applying each of the plural pieces of information extracted to 20 a corresponding part of the plural templates.

5. The transformation apparatus of claim 1 further comprising a program judging unit for judging a role of the source code of the program stored in the memory unit as semantic information of the program, and

25 wherein the extracting/transforming unit extracts transformation information for transforming the source code of the program from the source

code of the program based on the semantic information of the program judged by the program judging unit and the semantic information of each section judged by the section judging unit.

6. The transformation apparatus of claim 1 further comprising a syntax
5 analyzing unit for analyzing syntax of the program stored in the memory
unit, and

wherein the section judging unit judges the semantic information of each section included in the program, the syntax of which is analyzed by the syntax analyzing unit.

- 10 7. The transformation apparatus of claim 1 transforms source code of a COBOL program for batch processing.

8. A transformation method comprising:
storing a program for batch processing in a form of source code;
dividing the source code of the program stored into at least one block
15 of process, each block of process being identified as a section, and judging a role of each section as semantic information of each section; and
extracting transformation information for source code
transformation from the source code of the program stored based on the semantic information of each section judged, and transforming the source
20 code of the program into source code of transformation result program including two source codes of a transformation result program for a client and of a transformation result program for a server based on the transformation information extracted.

- 25 9. A transformation program having a computer perform processes of:
storing a program for batch processing in a form of source code;

dividing the source code of the program stored into at least one block of process, each block of process being identified as a section, and judging a role of each section as semantic information of each section; and
extracting transformation information for source code

- 5 transformation from the source code of the program stored based on the semantic information of each section judged, and transforming the source code of the program into source code of transformation result program including two source codes of a transformation result program for a client and of a transformation result program for a server based on the
10 transformation information extracted.

10. A computer readable recording medium storing a transformation program having a computer perform processes of:

- storing a program for batch processing in a form of source code;
dividing the source code of the program stored into at least one block of process, each block of process being identified as a section, and judging a role of each section as semantic information of each section; and
extracting transformation information for source code
transformation from the source code of the program stored based on the semantic information of each section judged, and transforming the source code of the program into source code of transformation result program including two source codes of a transformation result program for a client and of a transformation result program for a server based on the
20 transformation information extracted.

11. A transformation apparatus comprising:
25 a first transformation unit for inputting program source code of a

procedural off-line batch processing and transforming the program source code into a program for on-line real-time processing; and

a second transformation unit for further transforming the program for on-line real-time processing into a Web program which works in
5 client/server environment.

12. The transformation apparatus of claim 11, wherein:

the first transformation unit inputs the program source code for the off-line batch processing, naming rules of data, and coding rules of procedures and transforms the program source code into two kinds of class
10 programs including a client side class and a server side class for the on-line real-time processing; and

the second transformation unit inputs the two kinds of class programs and generates source program of an object-oriented program.

13. The transformation apparatus of claim 12, wherein the second transformation unit transforms the client side class into three kinds of class programs including a model class, a view class, and a controller class and transforms the server side class into two kinds of class programs including a session class and an entity class.

14. The transformation apparatus of claim 12, wherein the first transformation unit includes preprocessing of meaning assignment for referring to definition of data in the source code of the program, judging definition of a master file and definition of a transaction file, detecting a role of the program and roles of components of the program among a series of processes, and appending labels which show the roles of the program and the
25 roles of the components of the program among a series of processes.

15. The transformation apparatus of claim 12, wherein
the first transformation unit executes a transformation 1 program,
the second transformation unit executes a transformation 2 program,
the programs for the off-line batch processing is classified to plural
5 categories,
the transformation 1 program and the transformation 2 program are
generated corresponding to each of the plural categories of the program for
the off-line batch processing, and
the first transformation unit and the second transformation unit
10 respectively execute the transformation 1 program and the transformation 2
program generated corresponding to the each of the plural categories of the
program for the off-line batch processing.

16. A transformation method comprising:
inputting program source code of a procedural off-line batch
15 processing;
transforming the program source code into a program for on-line
real-time processing; and
transforming the program for on-line real-time processing into a Web
program which works in client/server environment.